

RECORDS AND DESCRIPTIONS OF AFRICAN MANTIDÆ AND PHASMIDÆ
(ORTHOPTERA).

BY JAMES A. G. REHN.

The material on which the following notes were based is chiefly from Harrar, Abyssinia, the Kikuyu Escarpment and Mombasa, British East Africa, and Mossamedes, Angola. Aside from the Mombasa series which belongs to the Hebard Collection, the material is almost entirely contained in the Academy collection. In addition to data on the material from the localities given above, supplementary notes are here given on certain Northeast African Mantidæ previously reported upon in these PROCEEDINGS.¹

The author wishes to thank Mr. Morgan Hebard for the opportunity to examine the small but interesting Mombasa series from his collection.

MANTIDÆ.

ORTHODERINÆ.

ELÆA Stål.

Elæa marchali (Reiche and Fairmaire).

1847. *E[remiaphila] marchali* Reiche and Fairmaire, in Ferret and Galinier, Voy. en Abyssinie, III, p. 424, Zool., pl. 27, fig. 5. [Locality implied: Abyssinia.]

Harrar, Abyssinia. One female.

TARACHODES Burmeister.

Tarachodes karschii Werner.

1907. *Tarachodes Karschii* Werner, Sitzungsber. K. Akad. Wissensch., Wien, Math.-nat. Kl., CXVI, Heft II, Abt. I, p. 212. [Bondei and Dar-es-Salaam, German East Africa; coast of German East Africa; Lake Tanganyika.]

Kikuyu Escarpment, British East Africa. Two males.

These specimens apparently are not separable from the typical material of the species. It might be mentioned that the spines on the internal face of the cephalic femora and tibiæ are black to their bases, instead of black-tipped as are the external spines on the same limbs.

¹ *Proc. Acad. Nat. Sci. Phila.*, 1901, pp. 276-288.

This record connects the original localities with nine recent records by the original author from Danakil and Abyssinia.

Tarachodes æstuans Saussure.

1895. [*Tarachodes*] *æstuans* Saussure, Ann. Mus. Civ. Stor. Nat., Genova, XXXV, p. 91. [Laffarugh, Ogaden, Somaliland.]

1901. *Tarachodes smithi* Rehn [♀ not ♂], Proc. Acad. Nat. Sci. Phila., 1901, p. 278. [Tug Berka, Somaliland.]

After re-examination and comparison with representatives of a number of species of this genus, the immature female formerly placed under *T. smithi* has been found to be distinct from the male, and as far as possible to determine in its condition should be referred to Saussure's species.

Tarachodes smithi Rehn.

1901. *Tarachodes smithi* Rehn [♂ not ♀], Proc. Acad. Nat. Sci. Phila., 1901, p. 278. [Tug Terfa, Somaliland.]

1907. *Tarachodes taramassi* Giglio-Tos, Bollett. Mus. Zool. ed Anat. Comp., Torino, XXII, nr. 563, p. 5. [Mogadisciu, Somaliland.]

This species is found on re-examination to be quite distinct from any of the older forms, its closest relationship doubtless being with *T. media* Schulthess, while its general slender form and non-rugose integument strongly suggests species of *Galepsus*, but the shape and proportions of the head are essentially those of *Tarachodes*.

The description of *Iaramassi* agrees fully with the male type of *smithi*.

GALEPSUS Stål.

Galepsus capitatus (Saussure).

1871. *Ch[iro]pacha*] *capitata* Saussure, Mélanges Orthoptérologiques, III, p. 166, Pl. 4, fig. 2. [Africa.]

Kikuyu Escarpment, British East Africa. One male.

This species has been recorded from a number of localities extending from Delagoa Bay to Abyssinia and from Zanzibar to the Congo.

Galepsus meridionalis form **montanus** Werner.

1907. [*Galepsus*] *meridionalis* var. *montana* Werner, Sitzungsber. K. Akad. Wissensch., Wien, Math.-natur. Kl., CXVI, Heft II, Abt. I, p. 220. [Between Taveta and Meru; Kilimanjaro.]

Mombasa, British East Africa. Five males. [Hebard Collection.]

These specimens agree very well with the brief original description of this form, which is apparently a geographic race. The measurements of the pronotum show extremes of 5.8 x 2.5 mm. and 6.5 x 3, while the tegmina are uniformly slightly longer than the original measurement, ranging from 18 to 18.5 mm., against the original 15.4.

MANTINÆ.

ENTELEA Stål.

Entella usambarica Sjöstedt.

1909. *Entella usambarica* Sjöstedt, *Wissensch. Ergebn. Schw. Zool. Exp. Kilimandj. Meru*, XVII, p. 58, Pl. 4, fig. 8. [Mombo, Usambara.]

Mombasa, British East Africa. Three males. [Hebard Collection.]

These specimens agree very well with the description of this species.

The amount of blackish maculations on the head, pronotum and limbs is very variable, differing in some degree in all three specimens. It is quite possible that *E. lamperti* Werner² from Tanga, Usambara, is the female of this species.

POLYSPILOTA Burmeister.

Polyspilota variegata (Olivier).

1792. *Mantis variegata* Olivier, *Encycl. Meth., Ins.*, VII, p. 638. [Angola.]

South Africa. One male.

Merule to Murchison Falls, Uganda. One adult and one immature female.

Mombasa. (Hebard Collection.) One male, one female.

The South African male and the Mombasa male belong to the color-form *pustulata* as defined by Werner,³ the Uganda and Mombasa female to color-form *striata*. Indications seem to point to the fact that east and south African individuals of *variegata* are larger than west African (forest land) specimens. Liberian specimens average very small, and specimens from the eastern edge of the great forest, west of Albert Nyanza, recorded by the author⁴ are very similar. Luebo, Congo, specimens, however, are like southern individuals.

The specimens in the present series measure as follows:

	Uganda. ♀.	Mombasa. ♀.	Mombasa. ♂.	South Africa. ♂.
Length of body, . . .	78.0 mm.	74.0 mm.	71.0 mm.	63.5 mm.
Greatest width of head,	9.0 "	9.8 "	8.2 "	7.5 "
Length of pronotum, .	23.8 "	25.0 "	23.0 "	17.2 "
Greatest width of pronotum,	7.5 "	8.0 "	6.3 "	5.5 "
Length of tegmen, . .	61.0 "	6.2 "	57.0 "	50+ "
Length of cephalic femur,	18.2 "	20.0 "	16.2 "	13.0 "

² *Jahresb. Ver. Vaterländ. Naturk. Württemberg*, LXII, p. 364.

³ *Bericht Senckenb. Naturf. Gesell.*, 1908, p. 38.

⁴ *Ergebn. Deutsch. Cent.-Afr. Exped. 1907-1908*, unter Führung Adolf Fried. Herzog zu Mecklenburg, Zool., Orthoptera.

SPHODROMANTIS Stål.**Sphodromantis rudolfæ** (Rehn).

1901. *Sphodropoda rudolfæ* Rehn, Proc. Acad. Nat. Sci. Phila., 1901, p. 282.
[Near southern end of Lake Rudolf, western Gallalaland.]

Harrar, Abyssinia. One male.

This form, which may be merely a geographic race of *S. bioculata*, differs from the latter in the generally smaller size, broader head, breadth of pronotum, and shorter pronotum, cephalic femora and tegmina, which latter in the female fall considerably short of the apex of the abdomen.

The Harrar male measures as follows: length of body, 42.5 mm.; greatest width of head, 6.8; length of pronotum, 11.5; greatest width of pronotum, 4.2; length of tegmen, 35; length of cephalic femur, 10.

Sphodromantis lineola (Burmeister).

1838. *M[antis (Stagmatoptera)] lineola* Burmeister, Handb. d. Entom., II. Abth. II, Pt. 1, p. 537. [Sierra Leone.]

Mombasa. One male. [Hebard Collection.]

This specimen is almost uniform greenish-yellow in color.

HOPLOCORYPHA Stål.**Hoplocorypha galeata** (Gerstaecker).

1870. *Mantis (Danuria?) galeata* Gerstaecker, Archiv für Naturgeschichte, XXXV, p. 210. [Lake Jipe, German East Africa.]

German East Africa. One male, one female.

Kikuyu Escarpment, British East Africa. Two immature females.

Hoplocorypha macra (Stål).

1856. [*Mantis*] *macra* Stål, Öfv. K. Vet.-Akad. Förh., XIII, p. 169. [Port, Natal.]

Merule to Murchison Falls, Uganda. One female.

Mombasa, B. E. Africa. One female. [Hebard Collection.]

Zambesia. One female.

Transvaal. (C. W. Howard.) Two males.

Mossamedes, Angola. One female.

From the evidence of this material it appears that this species ranges north along the east coast to Mombasa and in the interior to Uganda. It is probable that it is not found in the same region as Gerstaecker's *galeata*, which may be restricted to the more elevated regions of East Africa, although the evidence is too slight to make any deductions. However, the above facts may explain the inability of some previous authors to separate East African material presumed to represent *galeata* from South African examples of *macra*.

CALIDOMANTIS Rehn.**Calidomantis affinis** (Sjöstedt).

1909. *Miomantis affinis* Sjöstedt, *Wissensch. Ergebn. Schw. Zool. Exp. Kilimandj. Meru*, XVII, p. 63. [Kibonoto, Lower Culture-zone, Kilimanjaro.]

Kikuyu Escarpment, Brit. East Africa. Two males.

These specimens show that this form is very close to *C. quadri-punctata* Saussure, differing chiefly in the greater size. The dimensions of these specimens are as follows:

Length of body,	35.0 mm.	36.5 mm.
Length of pronotum,	9.5 "	10.8 "
Greatest width of pronotum,	2.2 "	2.5 "
Length of tegmen,	30.0 "	31.0 "
Length of cephalic femur,	7.8 "	8.2 "

The original description and the above record constitute all we know of the species.

Calidomantis kilimandjarica (Sjöstedt).

1909. *Miomantis kilimandjarica* Sjöstedt, *Wissensch. Ergebn. Schwed. Zoolog. Exped. Kilimandj. Meru*, XVII, p. 64. [Kibonoto Culture-zone, Lower Culture-zone, Kilimanjaro.]

German East Africa. One male.

This specimen is in the brown phase, with much of the body sprinkled with dark brown. In size it is less than the type measurements, its dimensions being as follows: length of body, 28.5; width of head, 3.8; length of pronotum, 7.5; greatest width of pronotum, 1.6; length of tegmen, 22; length of cephalic femur, 6.2.

A male specimen from Mgunda, German East Africa (Langheld), taken December, 1895, belonging to the Berlin Museum, has also been examined.

Calidomantis pharaonica (Saussure).

1898. *M[iomantis] pharaonica* Saussure, *Revue Suisse de Zoologie*, V, p. 193. [Egypt; Senaar.]

Merule to Murchison Falls, Uganda. One male.

Werner⁵ has recorded this species from the Bahr-el-Gebel (Station Bor) region.

OXYOPHTHALMUS Saussure.**Oxyophthalmus somalicus** n. sp.

1901. *Oxyophthalma gracila* Rehn (not of Saussure, 1861), *Proc. Acad. Nat. Sci. Phila.*, 1901, p. 286. [Bodele, Tug Terfa, Somaliland.]

Type: ♂; Bodele, Tug Terfa, Somaliland. August 20, 1894. (Dr. A. Donaldson Smith.) [A. N. S. P., type No. 5166.]

⁵ *Sitzungsab. K. Akad. Wissensch., Wien, Math.-nat. Kl.*, CXVI, Abt. 1, p. 240.

This specimen is clearly a representative of the genus *Oxyophthalmus*, which otherwise is only known from India and Ceylon, and does not belong to *Paroxyophthalmus collaris* (Saussure) as surmised by Werner.⁶ The form of the pronotum is decidedly the subequal non-attenuate type found in *Oxyophthalmus*.

This species differs from *gracilis*, the type of the genus, in having the head less arcuate emarginate dorsad, the eyes less produced with divergent points, the pronotum shorter and the face distinctively colored.

Size small; form slender. Head with the exposed dorsal length contained about three and one-half times in the length of the pronotum, occipital line moderately subarcuate emarginate, the greater (median) portion being truncate; ocelli large, arranged in a triangle; facial shield slightly higher than broad, dorsal margin very narrowly produced mesad, slightly arcuato-emarginate ventrad of each antennal base, lateral and ventral margins subtruncate; antennæ at least two-thirds as long as the body (incomplete in type); eyes elongato-ovate in basal outline, not prominent laterad, but slightly produced and bluntly mammillate dorsad, the corneal points divergent. Pronotum elongate, roughly subequal, collar about as broad as the supracoxal width, shaft slightly narrower than the width of cephalic portion of pronotum,

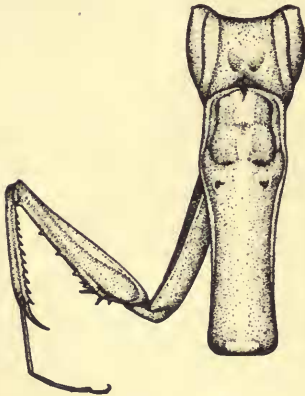


Fig. 1.—*Oxyophthalmus somaticus* n. sp. Dorsal view of head, pronotum and cephalic limb. (X 6.)

cephalic margin of same moderately arcuate, caudal margin arcuate laterad, truncate mesad; no medio-longitudinal sulcus or carina present; greatest pronotal width contained slightly more than three times in the length. Tegmina equal to twice the length of the head and pronotum together, narrow, hyaline; costal field broad in proximal half; apex narrowly rounded. Wings extending beyond tegmina a distance equal to the exposed dorsal length of head; apex narrowly rounded. Apex of abdomen mutilated. Cephalic coxæ not quite reaching to the caudal margin of pronotum, cephalic margin unarmed; cephalic femora slightly exceeding coxæ in length, slender, dorsal margin slightly arcuate in proximal two-thirds, discoidal spines four in number and placed

cephalic margin of same moderately arcuate, caudal margin arcuate laterad, truncate mesad; no medio-longitudinal sulcus or carina present; greatest pronotal width contained slightly more than three times in the length. Tegmina equal to twice the length of the head and pronotum together, narrow, hyaline; costal field broad in proximal half; apex narrowly rounded. Wings extending beyond tegmina a distance equal to the exposed dorsal length of head; apex narrowly rounded. Apex of abdomen mutilated. Cephalic coxæ not quite reaching to the caudal margin of pronotum, cephalic margin unarmed; cephalic femora slightly exceeding coxæ in length, slender, dorsal margin slightly arcuate in proximal two-thirds, discoidal spines four in number and placed

⁶ *Sitzungsb. K. Akad. Wissensch., Wien, Math.-nat. Kl., CXVI, Abt. 1, p. 256.*

proximad, external spines five in number (including distal one), internal spines eleven in number, the distal one separated from the others by a considerable interval ventrad of the femoral brushes; cephalic tibiæ (exclusive of claw) equal to about three-fifths of the femoral length, armed externally with ten spines, internally with ten to eleven spines; cephalic tarsi very long and slender, the length being more than one and a half times the tibial length, metatarsi alone about three-fourths the tibial length. Median limbs very short, femora being no longer than the cephalic coxæ. Caudal limbs of medium length, femora slightly inflated in proximal half;⁷ tarsi equal to three-fifths of the tibial length.

General color clay-color, the dorsum of the pronotum and the middle of the dorsum of head washed with drab and the cephalic limbs largely gamboge-yellow. Face bistre ventrad; from the antennal bases extend ventrad a pair of parallel straw-yellow lines; antennæ of the same color; eyes obscurely barred with bistre. Tegmina and wings very pale brownish hyaline. Cephalic coxæ clear gamboge-yellow; trochanter and femora lined ventro-laterad with bistre, finely dotted with same dorsad; tibiæ thickly sprinkled with bistre; all spines tipped with dark brown. Median and caudal femora thickly punctate with bistre which is arranged more or less in longitudinal series.

Measurements.

Length of body (abdomen incomplete),	23.0 mm.
Length of pronotum,	6.2 "
Greatest width of pronotum,	1.8 "
Length of tegmen,	17.0 "
Length of cephalic femur,	4.2 "
Length of median femur,	3.0 "
Length of caudal femur,	5.2 "

The type is unique.

EPISCOPUS Saussure.

Episcopus chalybæus (Burmeister).

1838. *Sch[izocephala] chalybæa* Burmeister, Handb. d. Entom., Bd. II, Abth. II, Pt. 1, p. 552. [Locality unknown.]

Kikuyu Escarpment, Brit. East Africa. One male.

Apparently this is the only exact record of the occurrence of the species in East Africa.

⁷This may indicate considerable saltatorial ability as found in the genus *Yersinia*, which has similarly subinflated femora.

CARVILIA Stål.

Carvilia agrionina (Gerstaecker).

1869. *Mantis* (*Photina*) *agrionina* Gerstaecker, Archiv für Naturgesch., XXXV, p. 209. [Mombasa.]

1898. *Parasphendale minor* Schulthess-Schindler, Ann. Mus. Civ. Stor. Nat., Genova, XXXIX, p. 177. [Webi River, Ogaden, Biduara, Errer, Somaliland.]

1901. *Parasphendale minor* Rehn, Proc. Acad. Nat. Sci. Phila., 1901, p. 285. [Sheikh Husein and Tulu, Gallalaland.]

Kikuyu Escarpment, Brit. East Africa. One immature male.

Harrar, Abyssinia. One female.

This latter specimen and the Sheikh Husein individual referred to above measure as follows:

	Harrar ♀.	Sheikh Husein ♀
Length of body,	53.0 mm.	45.0 mm.
Greatest width of head,	9.0 "	8.0 "
Length of pronotum,	18.2 "	16.2 "
Greatest width of pronotum,	5.5 "	5.0 "
Length of tegmen,	20.5 "	17.5 "
Length of cephalic femur,	15.0 "	13.5 "

The form *minor* of Schulthess does not appear separable specifically from Gerstaecker's species, the Sheikh Husein individual being nearly topotypic of *minor*, and both this and the Harrar specimen are inseparable from material from the region to the south. Werner has recorded this species from the vicinity of Harrar and from Djildessa on the border region of Somali and Galla lands.

CREOBOTRINÆ.

OXYPIIUS Serville.

Oxyphilus capensis (Saussure).

1871. *Oxyphilus* [*capensis*] *capensis* Saussure, Mélanges Orthopter., III, p. 317, Pl. 6, figs. 52, 52a. [Cape of Good Hope.]

German East Africa. One female.

This specimen, when compared with individuals of *O. annulatus* Serville, shows that the two species are closely related, differing chiefly in the more inflated median portion of the pronotum in *capensis*, which also has the pronotal tubercles more numerous.

HARPAGOMANTIS Kirby.

Harpagomantis tricolor (Linnæus).

1758. [*Gryllus* (*Mantis*)] *tricolor* Linnæus, Syst. Nat., X ed., I, p. 426. ["Indiis."]

South Africa. Three females:

Johannesburg, Transvaal, 6,000 feet. January-April, 1899. (J. P. Cregoe.) Two adult females, one immature female.

JALLA Giglio-Tos.**Jalla radiosa** Giglio-Tos.

1907. *J[alla] radiosa* Giglio-Tos, Bollett. Mus. Zool. ed Anat. Comp., Torino, XXII, nr. 563, p. 14. [Kazungula, Upper Zambesi.]

Zambesia. One female.

This hitherto unique genus and species is a most peculiar member of the Vatinæ, showing no close relationship to any of the other genera. The general outline of the pronotum is strikingly like that of the Orthoderine genera *Humbertiella* and *Theopompa*, but the excrescences and spines are radically different from anything found in those genera, while the other characters show no sort of analogous development.

As this is the first recognized female of the genus, a few notes made in comparison with the description of the male may be of service:

Ocelli smaller (sexual). Pronotum less distinctly medio-longitudinally sulcate caudad; margins of same non-ciliate. Tegmina short, reaching but half-way to the apex of the abdomen, ovate, coriaceous, apex broadly rounded; costal field rather narrow, this area, the region of the principal veins and the apical region with a number of scattered tuberculiform excrescences. Wings very slightly surpassing the tips of the tegmina, the exposed area of similar coriaceous structure to that of the tegmina. Internal cephalic femoral margin with fourteen spines, including the distal one; internal cephalic tibial margin with ten spines, exclusive of apical claw; abdomen strongly depressed, lateral angles rotundato-rectangulate, dorsal surface with longitudinal series of linear tubercles on the caudal portion of the segments.

Measurements.

Length of body,	38.0 mm.
Length of pronotum,	9.5 "
Greatest width of pronotum,	6.8 "
Length of tegmen,	13.5 "
Greatest width of tegmen,	7.6 "
Length of cephalic femur,	12.0 "

IDOLOMORPHA Burmeister.**Idolomorpha dentifrons** Saussure and Zehntner.

1895. *Idolomorpha dentifrons* Saussure and Zehntner, in Grandidier, Hist. Phys. Nat. et Polit. Madagascar, Orth., Blatt.-Mant., pp. 242, 244. [Zanzibar.]

Mombasa. One female. [Hebard Collection.]

This species, the only East African one of the genus, is known to range from Delagoa Bay to the White Nile and the Ogaden country.

BLEPHAROPSIS Rehn.**Blepharopsis mendica** (Fabricius).1775. [*Mantis*] *mendica* Fabricius, Syst. Entom., p. 275. [Alexandria, Egypt.]

Gafsa, Tunis. One female. [Hebard Collection.]

The distribution of this species in Africa is quite extensive, apparently covering all of the northern third of the continent, as it has been recorded from the Canaries, Senegambia, Tunis, Egypt, Nubia, Schoa, Kordofan, Abyssinia and Somaliland. It also occurs in Syria and Arabia.

IDOLUM Saussure.**Idolum diabolium** Saussure.1870. [*dolum*] *diabolicum* Saussure, Mitth. Schw. Ent. Gesell., III, pp. 223. [Africa.]

German East Africa. One immature female.

PHASMIDÆ.**BACILLINÆ.****XYLICA** Karsch.**Xylia kikuyuensis** n. sp.

Type: ♀; Kikuyu Escarpment, British East Africa. [Acad. Nat. Sci. Phila., type No. 5,170.]

Allied to *X. abbreviata* Redtenbacher from Ukami Mountains, German East Africa, and *caligulata* Redtenbacher from Zanzibar, differing from both in the peculiar development of the dorsal surface of the fifth abdominal segment and the smaller size, also from *abbreviata* in the shorter and more robust mesothorax, metathorax and limbs and from *caligulata* in the simpler and more usual type of operculum. The cephalic metatarsi show some indications of the cristation found in *caligulata*, while the antennal length is the same as in *abbreviata*, although the coloration of the latter is as found in *kilimandjarica* Sjöstedt, from which *kikuyuensis* can be immediately separated by the form of the fifth abdominal segment and the longer antennæ.

Size medium; form fairly robust; surface granulose and rugulose. Head distinctly longer than the prothorax, slightly longer than broad, surface with numerous granular tubercles; cephalic horns two in number, prominent, sharp, divergent; occipital margin laterally with sulci separating decided trigonal elevations from the low median

paired tubercles; eyes elliptical, prominent; antennæ subequal to the cephalic femora in length, composed of twenty joints, proximal one compressed, lamellate. Prothorax slightly longitudinal, rectangular, caudal margin with a median pair of tubercles. Mesothorax slightly less than three times the length of the prothorax, subequal to the prothorax except caudad where it is somewhat expanded, medio-longitudinal carina distinct and continuous over the metathorax as well; supplementary carinæ reaching about to middle of segment, sinuate, lateral margins undulato-carinate. Metathorax about two-thirds the length of mesothorax, much similar in character, but with the supplementary carinæ reaching about to the median segment, then curving laterad; median segment comprising two-fifths of the total metathoracic length, imperfectly defined, very slightly transverse, supplied caudad with paired tubercles as on the mesonotum. Abdomen with distinct median and supplementary longitudinal carinæ, as well as more or less complete lateral ones and numerous short rugæ; each of the four proximal segments with a caudal pair of tubercles, as on the mesonotum and median segment; median carina on fifth to eighth segment cristate sublamellate; fifth dorsal abdominal segment supplied with paired horizontal dentate lobes developed on each side of the base of the median crest; anal segment obtuse-angulate distad; cerci broad, depressed, apex acute; subgenital operculum spoon-shaped, carinate ventrad, apically margin acute-angulate, the immediate apex rounded. Mesosternum distinctly medio-longitudinally carinate. Cephalic limbs short; femora decidedly compressed, proximal flexure very marked; tibiæ slightly longer than the femora, compressed; metatarsi subcristate. Median limbs very short, femora not as long as the mesothorax. Caudal limbs short, femora compressed.



Fig. 3.—*Xylica kiyuensis* n. sp. Lateral outline of apex of abdomen (♀). (× 3.)



Fig. 2.—*Xylica kiyuensis* n. sp. Dorsal outline of fifth abdominal segment (♀). (× 5.)

General color probably pale greenish in life, some of the insect being now of this color, the remainder undoubtedly discolored and of a dull brownish. Antennæ annulate more or less regularly on alternate segments with Vandyke brown; eyes walnut-brown, crossed by one of several lateral longitudinal lines of Vandyke brown. Cephalic tibiæ tipped with dark brown. Vicinity of cephalic horns and internal portion of proximal extremity of cephalic femora pinkish.

Measurements.

Length of body,	41.0 mm.
Length of prothorax,	3.0 "
Length of mesothorax,	8.5 "
Length of metathorax,	6.0 "
Length of cephalic femur,	11.0 "
Length of median femur,	6.5 "
Length of caudal femur,	8.5 "

The type is unique.

CLITUMNINÆ.

GRATIDIA Stål.

Gratidia montana Brunner.

1907. *Gratidia montana* Brunner, Die Insektenf. Phasm., II, p. 223. [Kilimanjaro; Abyssinia.]

Tanga, German East Africa. One female.

Sjöstedt has recently recorded this species⁸ from the lower culture-zone of Kibonoto, Kilimanjaro and from Meru, also adding additional notes on the structure of the sexes. The specimen in hand is larger than any previously measured from German East Africa, the dimensions being as follows: length of body 84.5 mm.; length of prothorax 2.8; length of mesothorax 17; length of metathorax 15; length of cephalic femur 27; length of median femur 19; length of caudal femur 25.

Gratidia nebulosipes n. sp.

Type: ♂; Kikuyu Escarpment, British East Africa. [Acad. Nat. Sci. Phila., type No. 5,171.]

Allied to *G. fissa* Karsch from German East Africa, but differing in the non-dilated apex of the but marginally excised process of the anal segment and in the shorter thoracic segments and limbs. Some relationship exists to *G. tenuis* Sjöstedt⁹ but the narrower process of the anal segment and less produced character of the same will at once separate the new form.

Size rather small; form slender; limbs but moderately elongate. Head but slightly longer than the prothorax, very slightly narrowed

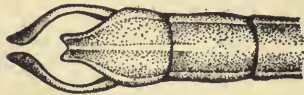


Fig. 4.—*Gratidia nebulosipes* n. sp. Dorsal view of apex of abdomen (♂). (× 6.)

caudad, the interocular transverse low inflation and the fine medio-longitudinal sulcus as in numerous other species of the genus; occipital margin slightly produced into a pair of median very low subtrigonal tubercles; eyes subglobose, slightly flattened; antennæ half the length of the cephalic femora, seven-

⁸ *Wissen. Ergebn. Schwed. Zool. Exp. Kilimandj. u. Meru*, XVII, p. 84.

⁹ *Wissen. Ergebn. Schwed. Zool. Exped. Kilimandjaro u. Meru*, XVII, p. 85, fig. 5. [Kilimanjaro, Meru and Usambara.]

teen-jointed. Prothorax with the lateral pronotal margins subparallel, slightly in-bent cephalad and caudad, cephalic margin of pronotum subarcuate emarginate, caudal margin of same subtruncate, transverse sulcus distinctly impressed mesad. Mesothorax three-fourths the length of the median femora, supplied with a fine medio-longitudinal carinula. Metathorax slightly shorter than the mesothorax, with a similar extremely weak carinula; median segment subquadrate. Abdomen of moderate length, the segments longitudinal, but not excessively prolonged, toward apex of the abdomen lateral and median carinulae are faintly indicated; anal segment fornicate, produced meso-caudad, the projection being not a half the length of the segment itself, dorsal surface with a distinct medio-longitudinal carina more distinct on the process, lateral margins regularly converging from the cercal bases caudad, the apex of the process shallowly V-emarginate; cerci inserted at the middle of the segment proper, narrowest in the premedian section, distal extremity enlarged, subclavate and trigonal in section, immediate apex bluntly acute, when viewed from the dorsum the cerci are seen to be strongly arcuate in the proximal half; subgenital plate hardly inflated, reaching to the base of the anal segment, distal margin arcuate with a pair of small, short, rotundate median lobes, a weak medio-longitudinal carina present on distal half of plate. Cephalic femora almost equal to the head and thoracic segments in length; cephalic tibiae exceeding the femoral length by about the length of the head. Median femora not exceeding the pro- and mesothorax in length; median tibiae slightly exceeding the femora. Caudal femora equal to two-thirds the length of the cephalic femora; caudal tibiae exceeding the femora by slightly less than the length of the head.

General color Prout's brown, becoming bistre towards the apex of the abdomen, the latter region sparingly marked with hoary white. Head and prothorax with the base color near wood-brown, indistinct postocular bars of the general color present; antennae drab. Limbs clouded and varied with the general color, tawny-olive and soiled buff.

Measurements.

Length of body,	46.0 mm.
Length of prothorax,	2.2 "
Length of mesothorax,	9.0 "
Length of metathorax,	8.2 "
Length of cephalic femur,	21.0 "
Length of median femur,	10.8 "
Length of caudal femur,	14.5 "



Fig. 5.—*Gratidia nebulosipes* n. sp. Lateral outline of apex of abdomen (♂). (× 6.)

Two paratypic males show that the species probably varies little in size and structure, but considerably so in color. The general color lightens to general wood-brown tints and also toward greenish; in the former phase the legs are hardly clouded, while in the latter the dark shades remain as in the type, and the clouding is, in consequence, of even greater contrast.

LEPTYNIA Pantel.

1890. *Leptynia* Pantel, An. Soc. Españ. Hist. Nat., XIX, p. 385.

Apparently *Maransis* Karsch (*Entom. Nachricht.*, XXIV, pp. 365, 381, 1898) should be referred to this genus as a synonym.

Leptynia rufolineatus (Schulthess).

1899. *M[aransis] rufolineatus* Schulthess, Bull. Soc. Vaudoise Sci. Nat., Lausanne, XXXV, p. 200, Pl. VIII, fig. 4. [Delagoa.]

1904. *Maransis rufolineatus* Rehn, Proc. Acad. Nat. Sci. Phila., 1904, p. 83. [Zulu Mission, South Africa.]

This species should be placed in the vicinity of *L. prospera* Brunner and *aspericollis* (Bates), to both of which it is extremely close, if really separable from one or the other. Brunner in his monograph has omitted this species as well as the related *mozambicus* Westwood and *trilineatus* Stål.

Leptynia senex n. sp.

Type: ♀; Kikuyu Escarpment, British East Africa. [Acad. Nat. Sci. Phila., type No. 5,172.]

In the sublobate median femora this species shows relationship to *L. pluto* Rehn¹⁰ from Lake Kivu, but the more robust and hoary granulate body, the longer operculum and more compressed and apically emarginate anal segment are distinctive of *senex*.

Size rather large; form moderately elongate; surface of thorax irregularly and bluntly granulate. Head slightly more than half again as long as the prothorax, gradually narrowing caudad; interocular region slightly inflated; occipital margin slightly impressed mesad; eyes subelliptical in basal outline, hardly prominent; antennæ



Fig. 6.—*Leptynia senex* n. sp. Lateral outline of apex of abdomen (♀). (× 6.)

¹⁰ In *Ergebnisse der Deutschen Cent.-Afr. Exped. 1907-1908*, unter Führung Adolf Friedrichs, Herzog zu Mecklenburg, Zool., Orth. (In press.)

contained about three and one-half times in the length of the cephalic femora, non-clavate, seventeen-jointed. Prothorax with the dorsum narrowing to a premedian point of least width; cephalic margin gently arcuato-emarginate, caudal margin subtruncate. Mesothorax very slightly exceeding the median femora in length, with an extremely faint median, and intimations of lateral, carinæ. Metathorax falling short of the mesothoracic length by nearly that of the prothorax,



Fig. 7.—*Leptynia senex* n. sp. Ventral outline of apex of abdomen (♀). (× 6.)

carinæ as on the mesothorax; median segment strongly transverse, poorly delimited cephalad. Abdomen becoming progressively quinque-carinate caudad; segments, except proximal and distal ones, decidedly longitudinal; anal segment very slightly longer than the preceding abdominal segment, tectate dorsad, median carina sharp, caudal margin produced and moderately V-emarginate mesad, exposing the extreme apex of the supra-anal plate; cerci slightly more than half the greatest length of the anal segment, compressed, subequal, ventral margin straight, dorsal margin arcuate distad, the apex being ventrad, lateral face excavate and medio-carinate; operculum lanceolate, reaching to the middle of the anal segment, non-carinate mesad, but with distinct sinuate lateral carinæ in the proximal two-thirds; seventh ventral abdominal segment with prominent, paired, parallel median carinæ, distal margin rectangulate. Cephalic femora distinctly exceeding the head, pro- and mesothorax in length; tibiæ slightly longer than the femora. Median femora slightly shorter than the mesothorax, at the proximal third with a low rounded or biundulate lobe on each ventral margin, carinæ unarmed; tibiæ subequal to the femora. Caudal femora equal to the length of the pro- and mesothorax, unarmed and non-lobate; tibiæ slightly exceeding the femoral length.

General color clove-brown, the thoracic tubercles, scattered spots on the dorsum of the head and abdomen and clouding of apex of latter hoary white. Limbs finely grizzled with whitish, the vicinity of the cephalic flexure of the cephalic femora dull ochraceous.

Measurements.

Length of body,	64.0 mm.
Length of prothorax,	2.8 "
Length of mesothorax,	13.0 "
Length of metathorax (incl. med. segm.),	11.0 "
Length of cephalic femur,	20.5 "
Length of median femur,	12.0 "
Length of caudal femur,	16.0 "

The type is unique.

PHTHOA Karsch.***Phthoa occidentalis* n. sp.**

Type: ♀; Massamedes Province, Angola. [Acad. Nat. Sci. Phila., type No. 5,173.]

Differing from *P. proluxa* Karsch from Mpwapwa, German East Africa, the type and only other species in the genus, in the greater size and triangularly emarginate seventh ventral abdominal segment, which latter is supplied laterad with decidedly acute triangular lobes, instead of being shallowly arcuate emarginate as in *proluxa*.

Size rather large; form moderately elongate; surface smooth, an indistinct medio-longitudinal carina present. Head about twice as long as the prothorax, distinctly narrowing caudad; interocular region slightly inflated; occipital margin moderately impressed mesad; eyes subglobose, hardly prominent; antennæ less than one-third the

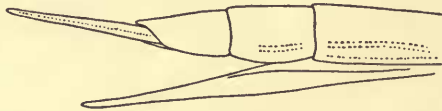


Fig. 8.—*Phthoa occidentalis* n. sp. Lateral view of apex of abdomen (♀). (× 5.)



Fig. 9.—*Phthoa occidentalis* n. sp. Ventral view of apex of abdomen (♀). (× 5.)

length of the cephalic femora, seventeen- to eighteen-jointed. Prothorax with the dorso-lateral margins sinuate and converging cephalad, cephalic margin arcuato-emarginate, caudal margin emarginato-truncate. Mesothorax two-thirds the length of the cephalic femora.

Metathorax equal to three-fourths the mesothoracic length; median segment transverse, cephalic margin arcuate. Abdomen with the median segments very strongly longitudinal; anal segment but slightly longer than the preceding abdominal segment, meso-carinate, caudal margin acute-angulate; supra-anal plate small, tapering subdigitiform, horizontal; cerci about twice the length of the anal segment, subcompressed, terete; operculum elongate lanceolate, falling but little short of the tips of the cerci, carinate proximo-laterad; seventh ventral abdominal segment slightly produced distad into a pair of divergent acute triangular lobes, the interspace being V-shaped emarginate, surface of segment not carinate mesad. Cephalic femora slightly exceeding the mesothoracic and twice the prothoracic length; tibiæ exceeding the femora by about the prothoracic length. Median femora unarmed and non-lobate, nearly equal to the pro- and mesothoracic length; tibiæ slightly exceeding the femora. Caudal femora very slightly shorter than the median pair; tibiæ exceeding the femora by more than the prothoracic length.

Natural color destroyed by immersion in spirits. Present coloration pale yellowish.

Measurements.

Length of body,	79.0 mm.
Length of prothorax,	2.5 "
Length of mesothorax,	16.0 "
Length of metathorax (incl. med. segm.),	12.5 "
Length of cephalic femur,	22.2 "
Length of median femur,	18.5 "
Length of caudal femur,	18.2 "
Length of operculum,	9.8 "

The type is the only representative of the species seen by us.

PHIBALOSOMINÆ.

ISCHNOPODA Grandidier.

Ischnopoda reyi Grandidier.

1869. *Ischnopoda reyi* Grandidier, *Revue et Magasin de Zoolog.*, 2me ser., XXI, p. 292. [Quilimane, Portuguese East Africa.]

German East Africa. Two females.